

539,223

10/539223

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau



(43) International Publication Date
22 July 2004 (22.07.2004)

PCT

(10) International Publication Number
WO 2004/061991 A1

(51) International Patent Classification⁷: **H01L 51/20, 29/78**

Namyangju-city, Kyungki-do 472-820 (KR). CHO, Beom-Seok [KR/KR]; 101-2402 Kolon Apt., Daerim 3-dong, 607-1 Yeongdeungpo-ku, Seoul 150-811 (KR).

(21) International Application Number:

PCT/KR2003/000599

(74) Agent: YOU ME PATENT & LAW FIRM; Teheran Bldg., 825-33 Yoksam-dong, Kangnam-ku, Seoul 135-080 (KR).

(22) International Filing Date: 26 March 2003 (26.03.2003)

(25) Filing Language: English

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(26) Publication Language: English

(30) Priority Data:
10-2003-0000757 7 January 2003 (07.01.2003) KR

(84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

(71) Applicant (*for all designated States except US*): SAM-SUNG ELECTRONICS CO., LTD. [KR/KR]; 416, Mae-tan-dong, Yeongtong-gu, Suwon-si, Gyeonggi-do 442-742 (KR).

Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(72) Inventors; and
(75) Inventors/Applicants (*for US only*): LEE, Jae-Gab [KR/KR]; 27-909 Hanyang Apt., Songpa 2-dong, Songpa-ku, Seoul 138-779 (KR). JEONG, Chang-OH [KR/KR]; 201-203 Dongsuwon LG Village Apt., Mangpo-dong, Paldal-ku, Suwon-city, Kyungki-do 442-706 (KR). SUNG, Myung-Mo [KR/KR]; Dalbitmaeul 301-1004, Hwajeong-dong, Deokyang-ku, Goyang-city, Kyungki-do 412-270 (KR). YANG, Hee-Jung [KR/KR]; Kumoh Villa na-101, Toegyewon-ri, Toegyewon-myeon,

(54) Title: THIN FILM TRANSISTOR SUBSTRATE AND METHOD FOR FORMING METAL WIRE THEREOF



WO 2004/061991 A1

(57) Abstract: The present invention relates to a thin film transistor substrate and a metal wiring method thereof, more particularly to a thin film transistor substrate comprising self-assembled monolayers between the substrate and the metal wiring, and a metal wiring method thereof. Since a thin film transistor substrate of the present invention comprises three-dimensionally cross-linked self-assembled monolayers between the Si surface and the metal wiring, it has good adhesion ability and anti-diffusion ability.